PAT-NO: JP406112943A

DOCUMENT-IDENTIFIER: JP 06112943 A

TITLE: MULTI-POINT COMMUNICATION CONFERENCE
SYSTEM

PUBN-DATE: April 22, 1994

INVENTOR-INFORMATION:
NAME
YAMAGUCHI, TOSHIKAZU

ASSIGNEE-INFORMATION:
NAME   COUNTRY
NIPPON TELEGR & TELEPH CORP <NTT>   N/A

APPL-NO: JP04261296

APPL-DATE: September 30, 1992

INT-CL (IPC): H04L012/18, H04M003/56

US-CL-CURRENT: 370/263, 370/FOR.113

ABSTRACT:

    PURPOSE: To provide a multi-point communication
conference system in which
the system operation right acquisition algorithm is easily
revised depending on
the application of the communication conference system.

    CONSTITUTION: A set of a start code and a command name
used to discriminate
whether or not an operation right of the system is provided
is generated by a
text form file, and registered in a processing request
command storage means
31, prior to the start of communication conference, a
sponsor or the like of

the conference selects one file among plural text form files registered in
advance, the content of the text form file is read and a command table 32 is
generated. A conference terminal equipment 3 receiving a processing request is
constituted so as to generate a processing request frame by using the command
table 32.

(51)Int.Cl.⁵	識別記号	庁内整理番号	ＦＩ	技術表示箇所
Ｈ０４Ｌ　12/18				
Ｈ０４Ｍ　3/56		Ｃ		
		8732−5K	Ｈ０４Ｌ　11/18	

審査請求　未請求　請求項の数1（全 10 頁）

(54)【発明の名称】　多地点通信会議システム

(57)【要約】
【目的】　通信会議システムの用途により、システムの操作権獲得アルゴリズムを容易に変更可能とした多地点通信会議システムを提供すること。
【構成】　システムの操作権を与えるかどうかを判断するために使用する起動コードとコマンド名のセットをテキスト形式のファイルで作成し、これを処理要求コマンド格納手段に登録しておき、通信会議の開始前に、会議の主催者等が、前以って登録してある複数のテキスト形式のファイルから1個を選択し、テキスト形式のファイルの内容を読込んでコマンドテーブルを作成する。処理要求のある会議端末は、上記コマンドテーブルを使用して前記処理要求フレームを生成する如く構成したことを特徴とする多地点通信会議システム。

実施例に係るシステムの構成図

1
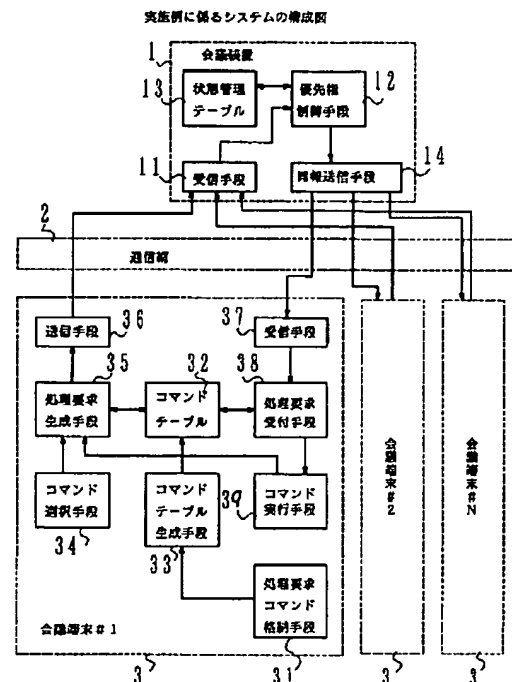
【特許請求の範囲】
【請求項1】　音声情報の加算，画像情報の分配を行う一つの会議装置と複数の会議端末とが通信手段を介して接続され、前記複数の会議端末中の処理要求のある会議端末は処理要求フレームを前記会議装置に送信し、会議装置は前記処理要求を受付け可能か否かを判断して、受付け可能であれば全会議端末に処理許可フレームを同報送信し、各会議端末は該処理許可フレームの内容を基に当該処理を起動する如く構成された多地点通信会議システムにおいて、前記各会議端末は、
①処理要求時に、コマンドを識別するためのコマンドコード，現システム状態でコマンドを起動可能か否かを判断するためのチェックコードおよびコマンド実行中の状態を設定するパーミッションコードから構成される起動コードと、コマンド名のセットから構成されるテキスト形式のファイルを複数個格納する処理要求コマンド格納手段
②前記起動コードとコマンド名のセットから構成されるコマンドテーブル
③前記処理要求コマンド格納手段から1個のテキスト形式のファイルを読込んで前記コマンドテーブルを生成するコマンドテーブル生成手段
④処理要求時、オペレータ操作により1個のコマンド名を取得するコマンド選択手段
⑤前記コマンド選択手段から受領したコマンド名を基に、前記コマンドテーブルを検索して該当する起動コードを取得し、前記処理要求フレームを生成する処理要求生成手段
⑥前記会議装置から受信した処理許可フレームから起動コードを取出し、該起動コードを基に前記コマンドテーブルを検索して該当するコマンド名を取得する処理要求受付手段
⑦該処理要求受付手段から受領したコマンド名を使用してコマンドを起動するコマンド実行手段
を備え、通信会議の開始前に、各会議端末が、前記処理要求コマンド格納手段に予め登録されているテキスト形式のファイルを1個読込むことにより共通の前記コマンドテーブルを作成しておき、処理要求のある会議端末が当該コマンドテーブルを使用して前記処理要求フレームを生成する如く構成したことを特徴とする多地点通信会議システム。
【発明の詳細な説明】
【0001】
【産業上の利用分野】本発明は、通信網に一つの会議装置と複数の会議端末とを接続して構成する多地点通信会議システムに関し、特に、広い地域に分散された複数地点の通信相手と会議端末を利用して会議を行う場合に有効な多地点通信会議システムに関するものである。
【0002】
【従来の技術】従来のこの種の多地点通信会議システム

2

としては、会議装置に通信網を介して接続された会議端末が処理要求を行う場合、会議装置にトークン要求フレームを送信し、当該フレームを受信した会議装置は、内部に保持している制御権保有端末番号を基に、当該端末にトークン要求フレームを送信し、トークン付与フレームを受信することによりシステムの制御権を回収し、処理要求を送信した会議端末にトークン付与フレームを送信することにより、システムの制御権を譲渡するものが知られていた。この場合、会議装置は、複数の会議端末からトークン要求フレームを受信すると、最先着のトークン要求フレームを受付け、残りのトークン要求フレームを破棄する。なお、この種のシステムについては、例えば、有川,谷川,林：「パソコンを用いたマルチメディア通信会議サービス」（ＮＴＴ　Ｒ＆Ｄ　Ｖol.39，Ｎo.9，pp.1265-1274），谷川,中根,酒井,松本：「オーディオグラフィック通信会議における多地点間通信制御法」（信学論（Ｂ），Ｖol.Ｊ70-Ｂ，Ｎo.3，pp.316-326)等において論じられている。
【0003】
【発明が解決しようとする課題】上記従来技術においては、システムの制御権を獲得できる会議端末は、システム内で1台であるため、システムの制御権の譲渡、回収制御が簡単になるが、システムの制御権を獲得した会議端末が、印刷処理等のオフライン処理やポインティング表示処理を実行している間、他の会議端末は、印刷処理やポインティング表示処理の処理要求を受付けられず、当該処理が終了するまで待たされ、システムのマンマシンインタフェースが悪くなったり、会議が長時間に亘って中断されるという問題があった。これに対しては、本出願人が、先に特願平03-281015号「多地点通信会議システムおよび通信制御方法」（平成3年10月28日出願）により提案した技術がある。この技術は、図2に示す如く、処理要求のある会議端末（図では＃1）が、前以って会議端末の内部に保持している固定のコマンドテーブルを使用して、処理要求フレームを生成するものであった。但し、この技術では、コマンドテーブルの内容が固定であり、描画処理の操作権を1台の会議端末に制限していたのを複数の会議端末が同時に描画できるように変更したり、印刷処理をオフライン処理からオンライン処理に変更したりする場合には、プログラムの改造が必要であった。例えば、議長の指名により発表を許可する形態の会議に通信会議システムを使用する場合には、描画できる会議端末は1台に制限した方がよく、一方、ブレーンストーミングに通信会議システムを使用する場合には、複数の会議端末が同時に描画できる方がよい。本発明は上記事情に鑑みてなされたもので、その目的とするところは、上述の本出願人の提案に係る技術を更に改良し、通信会議システムの用途により、システムの操作権獲得アルゴリズムを容易に変更可能とした多地点通信会議システムを提供することにある。

3

【0004】

【課題を解決するための手段】本発明の上記目的は、音声情報の加算，画像情報の分配を行う一つの会議装置と複数の会議端末とが通信手段を介して接続され、前記複数の会議端末中の処理要求のある会議端末は処理要求フレームを前記会議装置に送信し、会議装置は前記処理要求を受付け可能か否かを判断して、受付け可能であれば全会議端末に処理許可フレームを同報送信し、各会議端末は該処理許可フレームの内容を基に当該処理を起動する如く構成された多地点通信会議システムにおいて、前記各会議端末は、

①処理要求時に、コマンドを識別するためのコマンドコード，現システム状態でコマンドを起動可能か否かを判断するためのチェックコードおよびコマンド実行中の状態を設定するパーミッションコードから構成される起動コードと、コマンド名のセットから構成されるテキスト形式のファイルを複数個格納する処理要求コマンド格納手段

②前記起動コードとコマンド名のセットから構成されるコマンドテーブル

③前記処理要求コマンド格納手段から1個のテキスト形式のファイルを読込んで前記コマンドテーブルを生成するコマンドテーブル生成手段

④処理要求時、オペレータ操作により1個のコマンド名を取得するコマンド選択手段

⑤前記コマンド選択手段から受領したコマンド名を基に、前記コマンドテーブルを検索して該当する起動コードを取得し、前記処理要求フレームを生成する処理要求生成手段

⑥前記会議装置から受信した処理許可フレームから起動コードを取出し、該起動コードを基に前記コマンドテーブルを検索して該当するコマンド名を取得する処理要求受付手段

⑦該処理要求受付手段から受領したコマンド名を使用してコマンドを起動するコマンド実行手段

を備え、通信会議の開始前に、各会議端末が、前記処理要求コマンド格納手段に予め登録されているテキスト形式のファイルを1個読込むことにより共通の前記コマンドテーブルを作成しておき、処理要求のある会議端末が当該コマンドテーブルを使用して前記処理要求フレームを生成する如く構成したことを特徴とする多地点通信会議システムによって達成される。

【0005】

【作用】本発明に係る多地点通信会議システムにおいては、システムの操作権を与えるかどうかを判断するために使用する起動コードとコマンド名のセットを、図8に例示したようなテキスト形式のファイルで作成し、これを処理要求コマンド格納手段に登録しておく。通信会議の開始前に、会議の主催者等が、前以って登録してある複数のテキスト形式のファイルから1個を選択し、テキ

4

スト形式のファイルの内容を読込んでコマンドテーブルを作成する。このように、通信会議システムの用途によりシステムの操作権獲得アルゴリズムを変更したい場合、会議端末が内部に保持するコマンドテーブルの内容を通信会議の開始前に前以って変更しておくことにより、処理要求のある会議端末が当該コマンドテーブルを使用して処理要求フレームを生成するため、システムの操作権獲得アルゴリズムを容易に変更することが可能になり、マンマシンインタフェースを向上させることができる。

【0006】

【実施例】以下、本発明の実施例を図面に基づいて詳細に説明する。図1は、本発明の一実施例に係る多地点通信会議システム（以下、単に「システム」という）の構成図である。図において、1は会議端末3に対して情報の収集および分配を行う会議装置、2は会議装置1と複数の会議端末3とを接続する通信網、3は通信網2を介して会議を行う会議端末(#1～#N)である。上述の会議装置1は、会議端末3からの処理要求フレームを受信する受信手段11と、後述する状態管理テーブル13を管理し、会議端末3の処理要求が受付け可能か否かを判断する優先権制御手段12と、現システム状態および各会議端末3の状態を示す情報を登録する状態管理テーブル13と、通信網2を介して処理許可フレームを全会議端末(#1～#N)に同報送信する同報送信手段14から構成されている。

【0007】また、会議端末3は、コマンドを識別するコマンドコード21，現システム状態でコマンドを起動可能かどうかの判断を行うためのチェックコード22，コマンド実行中の状態を設定するパーミッションコード23から構成される起動コード(図3参照)と、コマンド名のセットから構成されるテキスト形式のファイルを複数個格納する処理要求コマンド格納手段31と、上述の起動コードとコマンド名のセットから構成されるコマンドテーブル32と、上述の処理要求コマンド格納手段31からテキスト形式のファイルを1個読込み、コマンドテーブルを生成するコマンドテーブル生成手段33と、処理要求時、メニュー選択，アイコン選択等のオペレータ操作により1個のコマンド名を取得するコマンド選択手段34と、該コマンド選択手段34から受領したコマンド名を基に、前述のコマンドテーブル32を検索して該当する起動コードを取得し、処理要求フレームを生成する処理要求生成手段35と、会議装置1から受信した処理許可フレームから起動コードを取り出し、取り出した起動コードを基に、前述のコマンドテーブル32を検索して該当するコマンド名を取得する処理要求受付け手段38と、処理要求受付け手段から受領したコマンド名を使用して、コマンドを起動するコマンド実行手段39とを備えている。

【0008】なお、図1中の36，37は会議端末3か

5

ら通信網2を介して会議装置1へのデータの送受信を行うための送信手段および受信手段を示している。図3に、上述の起動コードの構成を示す。起動コードは、コマンドを識別するための1バイトのコマンドコード21と、コマンドの処理要求種別を示す4ビットのチェックコード22と、コマンド実行中の状態を設定し、チェックコードとともに使用し、現システム状態でコマンドを起動可能か否かを判断するための4ビットのパーミッションコード23から構成される。会議端末3は、内部に複数の起動コードから構成されるコマンドテーブル32を保持しており、処理要求に対応した起動コードを選択することにより処理要求を行う。図4に、上述のチェックコードおよびパーミッションコードの構成を示す。コマンドが起動可能か否かを判断する場合、本チェックコードと前以って内部に保持しているパーミッションコードとの論理積を計算し、「0」であれば起動可能とみなし、起動コード内のパーミッションコードを用いて、保持しているパーミッションコードを更新する。また、上述の論理積が「0」でない場合には起動不可とみなし、処理要求は破棄される。

【0009】図5に、通信会議システムで使用する各種処理，チェックコードおよびパーミッションコードの設定例を示す。図5に示した例では、1台の会議端末がポインティング表示処理中であっても、他の会議端末はポインティング表示処理を要求すれば受付けられ、複数台の会議端末が同時にポインティング表示処理を実施可能である。また、同様に、複数台の会議端末が同時に印刷処理のようなオフライン処理を実施可能である。図6は、処理要求フレームおよび処理許可フレームの構成を示している。会議端末3が処理要求を行う場合、処理要求に対応する起動コードを選択し、自分の端末番号を用いて処理要求フレームを作成し、会議装置1に送信する。会議装置1は、複数の会議端末から受信した処理要求フレームから1つを選択し、選択した処理要求フレームから同様の起動コード，端末番号を有する処理許可フレームを作成し、すべての会議端末(＃1～＃N)に同報送信する。

【0010】図7に、前述の状態管理テーブル13の構成を示す。状態管理テーブル13には、システムおよび各会議端末のパーミッションコードが保持されている。ここに示す例では、会議端末＃1および＃Nがオフライン処理中状態であるため、システムがオフライン処理中状態となっている。この場合、システムのパーミッションコードは、オフライン処理禁止ビット(図4参照)のみが「0」となっているため、会議端末＃1および＃N以外の会議端末がオフライン処理の処理要求を行えば、受付けられる。図8は、前述の処理要求コマンド格納手段31内に登録されている処理要求コマンド格納ファイルの作成例を示している。ここでは、1ラインが1個のコマンド定義(起動コマンドとコマンド名)になっている。選

6

択したテキストファイルを1ラインずつ読込み、「；」までを起動コード、「#」までをコマンド名、「#」から改行マークまでをコメント文と解釈し、起動コードとコマンド名をコマンドテーブルに格納している。

【0011】図8の例では、描画処理の起動コードは「011f」に設定されているため、チェックコード＝「0001」，パーミッションコード＝「1111」になっており、1台の会議端末が描画処理の処理要求を行って受付けられると、システムのパーミッションコードに「1111」が設定されるため、他の会議端末が描画処理の処理要求を行っても、「0001」&「1111」＝0001(≠0)となり、処理要求が受付けられない。一方、システム内で複数台の会議端末に描画処理の操作権を与える場合、チェックコード＝「0001」，パーミッションコード＝「1110」と付与すれば、0001&1110＝0000(＝0)となり、描画処理中であっても、他の会議端末から描画処理要求があれば処理要求は受付けられる。すなわち、処理要求コマンド格納ファイルの描画処理の起動コードを、テキストエディタ等を使用して、「011f」から「011e」に変更すればよい。

【0012】以下、会議実行中の動作を、図9および図10に示す動作フロー図に基づいて説明する。なお、ステップA01～A13は会議端末3の動作、ステップB01～B13は会議装置1の動作を示している。

ステップA01：システム立上げ後、会議端末3は、処理要求コマンド格納手段31に格納されている複数の処理要求コマンド格納ファイルから1個のファイルを選択する。

ステップA02：コマンドテーブル生成手段33は、ステップA01で選択したテキストファイルを読込み、コマンドテーブル32を作成し、会議端末3の内部に保持する。

ステップA03：コマンド選択手段34から処理要求が発生するまで待つ。

ステップA04：処理要求が発生したら、コマンド選択手段34を使用して、コマンド名を取得する。

ステップA05：処理要求生成手段35は、ステップA04で取得したコマンド名を基に、コマンドテーブル32を検索して起動コードを取得する。

【0013】ステップA06：処理要求生成手段35は、ステップA04で取得した起動コードと自会議端末3の端末番号から構成する処理要求フレームを作成する。

ステップA07：送信手段36は、ステップA06で作成した処理要求フレームを会議装置1に送信する。

ステップB01：会議装置1の受信手段11は、会議端末3からの処理要求フレームを受信し、優先権制御手段12に渡す。

ステップB02：優先権制御手段12は、ステップB01で受信した処理要求フレームからチェックコードを取得する。

7

ステップB03：更に、優先権制御手段１２は、状態管理テーブル１３からシステム状態を示すパーミッションコードを取得する。

ステップB04：次に、優先権制御手段１２は、ステップB02で取得したチェックコードとステップB03で取得したパーミッションコードとの論理積の計算を行う。

ステップB05：ステップB04での計算結果が「０」でなければ受付け不可とみなし、処理要求を破棄し、ステップB01の処理要求フレーム受信待ちに遷移する。また、ステップB04での計算結果が「０」である場合は処理要求を受付け可能とみなし、ステップB06に遷移する。

【０１４】ステップB06：優先権制御手段１２は、ステップB01で受信した処理要求フレームから端末番号を取得する。

ステップB07：更に、優先権制御手段１２は、ステップB01で受信した処理要求フレームからパーミッションコードを取得する。

ステップB08：次に、優先権制御手段１２は、状態管理テーブル１３内の、ステップB06で取得した端末番号に対応するパーミッションコードを、ステップB07で取得したパーミッションコードで更新する。

ステップB09：次に、優先権制御手段１２は、状態管理テーブル１３内に保持する全会議端末３のパーミッションコードの論理和を計算する。

ステップB10：次に、優先権制御手段１２は、状態管理テーブル１３内のシステムのパーミッションコードを、ステップB09が計算したパーミッションコードで更新する。

ステップB11：システムのパーミッションコードが「１１１１」、すなわち、すべての処理が禁止状態の場合、全会議端末３から「処理終了」の処理要求フレームを受信し、システムのパーミッションコードが「１１１１」以外に遷移するまで、ステップB01～B10を繰り返す。システムのパーミッションコードが「１１１１」以外であれば、ステップB12に進む。

【００１５】ステップB12：優先権制御手段１２は、ステップB01で受信したコマンドコードと端末番号およびステップB10の更新されたパーミッションコードを使用して処理許可フレームを作成し、同報送信手段１４に渡す。

ステップB13：同報送信手段１４は、ステップB12で受け取った処理許可フレームを、全会議端末３に同報送信する。

ステップA08：会議端末３の受信手段３７は、会議装置１からの処理許可フレームを受信する。

ステップA09：会議端末３の処理要求受付手段３８は、ステップA08で受信した処理許可フレームから端末番号を取得する。

ステップA10：処理要求受付手段３８は、ステップA09で取得した端末番号が自会議端末３の端末番号に一致す

8

るか否かをチェックし、一致すれば、自会議端末３の処理要求が受付けられたものとみなし、ステップA13に遷移する。また、一致しなければ、他会議端末３の処理要求が受付けられたものとみなし、ステップA11に遷移する。

【００１６】ステップA11：会議端末３の処理要求受付手段３８は、ステップA08で受信した処理許可フレームから起動コードを取得する。

ステップA12：次に、処理要求受付手段３８は、ステップA11で受信した起動コードを基にコマンドテーブルを検索して、コマンド名を取得する。

ステップA13：会議端末３のコマンド実行手段３９は、自会議端末３の処理要求が受付けられた場合はステップA04で取得したコマンド名を、また、他会議端末３の処理要求が受付けられた場合はステップA12で取得したコマンド名を用いて、コマンドを起動する。

なお、ステップA13で起動した処理が終了した場合、コマンド実行手段３９が「処理終了」の処理要求を処理要求生成手段３５を経由して会議装置１に送信することにより、システム状態が処理要求待ちに戻る。この一連の処理を繰り返すことにより、多地点通信会議システムにおける各種の処理を実施可能である。

【００１７】上記実施例によれば、前述の、議長の指名により発表を許可する形態の会議に通信会議システムを使用する場合には描画できる会議端末は１台に制限し、ブレーンストーミングに通信会議システムを使用する場合には複数の会議端末が同時に描画できるようにするといったような、システムの操作権獲得アルゴリズムの変更が、会議端末が内部に保持するコマンドテーブルの内容を通信会議の開始前に、前以って変更しておくことにより、処理要求のある会議端末が当該コマンドテーブルを使用して処理要求フレームを生成することで、容易にシステムの操作権獲得アルゴリズムを変更可能であり、マンマシンインタフェースの向上が可能になる。なお、上記実施例は本発明の一例を示したものであり、本発明はこれに限定されるべきものではないことは言うまでもないことである。

【発明の効果】以上、詳細に説明した如く、本発明によれば、前述の、本出願人が先に提案した技術を更に改良した、通信会議システムの用途により、システムの操作権獲得アルゴリズムを容易に変更可能とした多地点通信会議システムを実現できるという顕著な効果を奏するものである。

【００１８】
【図面の簡単な説明】
【図１】本発明の一実施例に係る通信会議システムの構成を示すブロック図である。
【図２】本出願人が先に提案した通信会議システムのブロック構成図である。
【図３】起動コードの構成を示す図である。
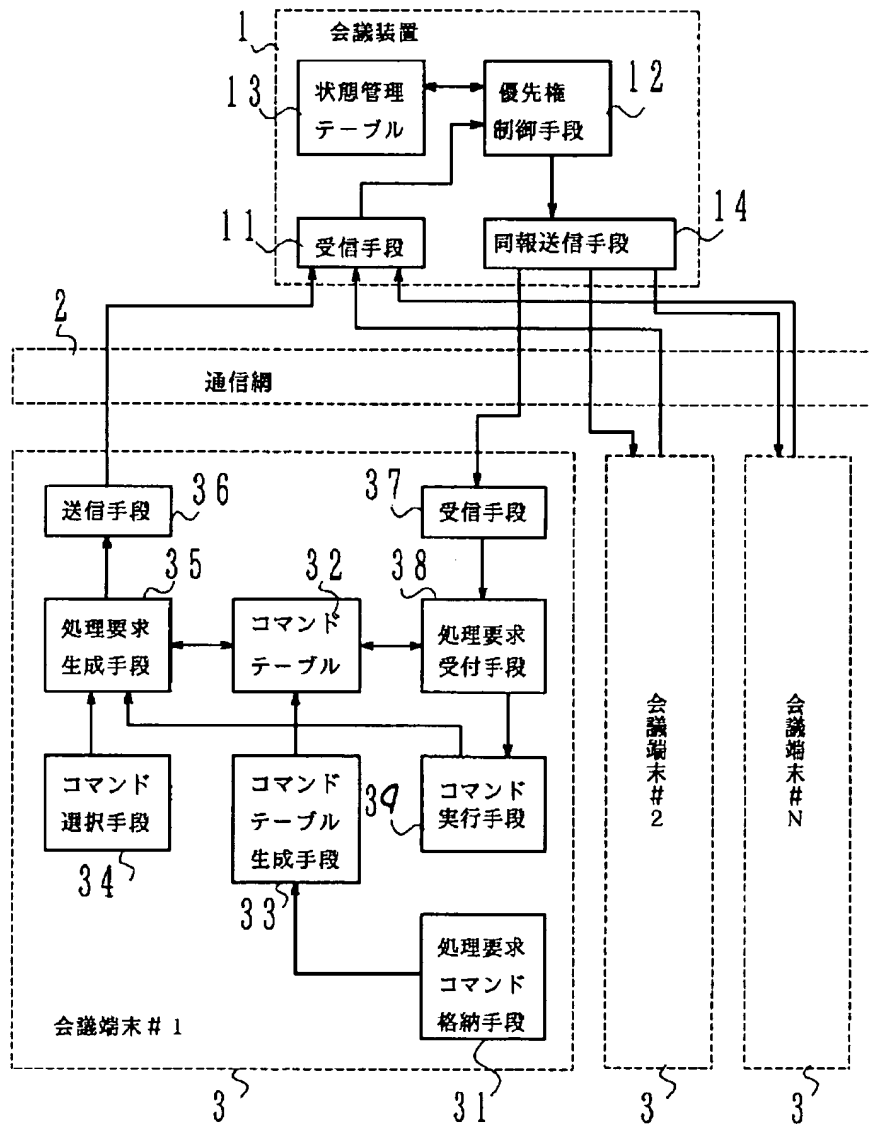
【符号の説明】

1：会議装置、2：通信網、3：会議端末(♯1～♯N)、11：受信手段、12：優先権制御手段、13：状態管理テーブル、14：同報送信手段、21：コマンドコード、22：チェックコード、23：パーミッションコード、31：処理要求コマンド格納手段、32：コマンドテーブル、33：コマンドテーブル生成手段、34：コマンド選択手段、35：処理要求生成手段、36：送信手段、37：受信手段、38：処理要求受付け手段、39：コマンド実行手段。

【図1】

実施例に係るシステムの構成図

【図2】

先願に係るシステムの構成図

【図3】

起動コードの構成

コマンドコード	チェックコード	パーミッションコード
21	22	23

会議装置

状態管理テーブル ←→ 優先権制御手段

受信手段　　　　同報送信手段

通信網

送信手段　　　受信手段

コマンドテーブル ←→ 処理要求手段

会議端末#1

会議端末#2

会議端末#N

【図4】

チェックコード，パーミッションコードの構成

チェックコード				パーミッションコード			
b7	b6	b5	b4	b3	b2	b1	b0

描画処理禁止
ポインティング処理禁止
オンライン処理禁止
オフライン処理禁止
描画処理要求
ポインティング処理要求
オンライン処理要求
オフライン処理要求
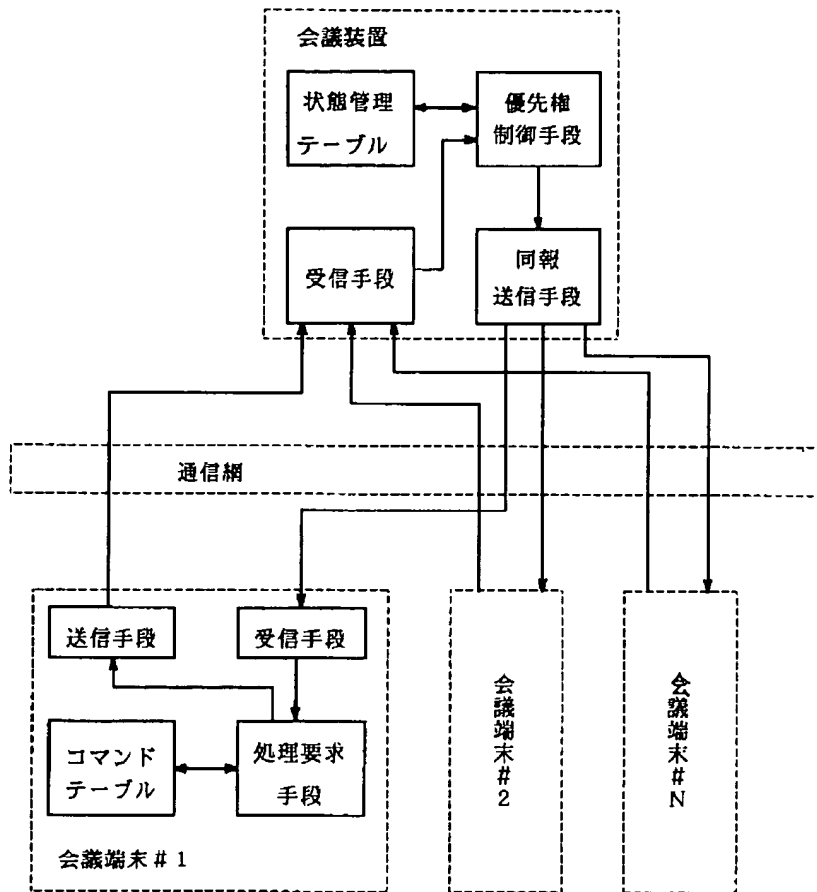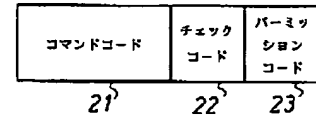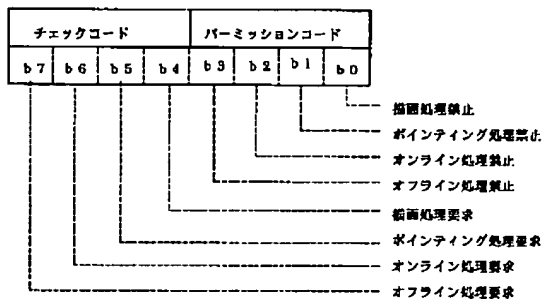
【図6】

処理要求フレーム，処理許可フレームの構成

起動コード		端末番号	

（8）

特開平6-112943
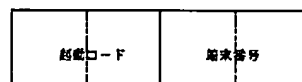
【図5】

チェックコードおよびパーミッションコードの設定例

処理名	チェックコード	パーミッションコード
描画処理	0 0 0 1	1 1 1 1
ポインティング表示処理	0 0 1 0	1 1 0 1
改ページ処理	0 1 0 0	1 1 1 1
印刷処理	1 0 0 0	0 1 1 1

【図7】

状態管理テーブルの構成

	パーミッション				
システム	0	1	1	1	オフライン処理中状態
会議端末#1	0	1	1	1	オフライン処理中状態
会議端末#2	0	0	0	0	処理待ち状態
・・・					
会議端末#N	0	1	1	1	オフライン処理中状態

——— 描画処理禁止
——— ポインティング処理禁止
——— オンライン処理禁止
——— オフライン処理禁止

【図8】

処理要求コマンド格納ファイルの作成例

起動コード；コマンド名＃コメント（処理名）

```
0000；MAC          ＃基本制御
011f；PEN          ＃描画
114f；CLEAR        ＃全画面消去
134f；PAGE         ＃改ページ
214f；CONNECT      ＃回線接続
254f；DISCON       ＃回線切断
444f；V_LINE       ＃縦線描画
454f；H_LINE       ＃横線描画
514f；SMALL        ＃画面縮小
524f；BIG          ＃画面拡大
534f；TURN         ＃画面回転
664f；DOCUMENT     ＃資料読込み
734f；DATA_FIL     ＃ファイル送信
814f；SCANNER      ＃スキャナ読込み
9487；PRINT_ALL    ＃全ページ印刷
```

08/27/2004, EAST Version: 1.4.1

【図9】

会議端末3　　　　　　　　　実施例の動作フロー
#1，#2，・・・#N

会議装置1

［システム立上げ］　　　通信網2　　　　　　　　　　［会議開始］

A01　テキストファイル選択

A02　コマンドテーブル生成

［会議開始］

A03　処理要求有り？　N

Y

A04　コマンド名取得

A05　起動コード取得

A06　処理要求フレーム作成

A07　フレーム送信

処理要求フレーム

B01　フレーム受信？　N

Y

B02　チェックコード取得

B03　パーミッションコード取得

B04　論理積計算

B05　受付可能？　N

Y

B06　端末番号取得

B07　パーミッションコード取得

B08　端末のパーミッションコード更新

B09　パーミッションコードの論理和を計算

B10　システムのパーミッションコード更新

B11　送信条件満足？　N

Y

B12　処理許可フレーム作成

B13　フレーム同報送信

処理許可フレーム

②　①

【図10】

実施例の動作フロー

会議端末3

```
                    ①
                     │
                     ▼
         N  ┌─────────────────┐  A08
      ┌─────◁ フレーム受信？  ▷
      │     └─────────────────┘
      │              │Y
      │     ┌─────────────────┐  A09
      │     │  端末番号取得    │
      │     └─────────────────┘
      │              │
      │     ┌─────────────────┐  A10
      │   Y ◁  自端末番号？   ▷
      │  ┌──◁                 ▷
      │  │   └─────────────────┘
      │  │            │N
      │  │   ┌─────────────────┐  A11
      │  │   │  起動コード取得  │
      │  │   └─────────────────┘
      │  │            │
      │  │   ┌─────────────────┐  A12
      │  │   │ コマンド名取得   │
      │  │   └─────────────────┘
      │  │            │
      │  └────────────┤
      │               ▼
      │      ┌─────────────────┐  A13
      │      │    処理起動      │
      │      └─────────────────┘
      │               │
      │               ▼
                      ②
```
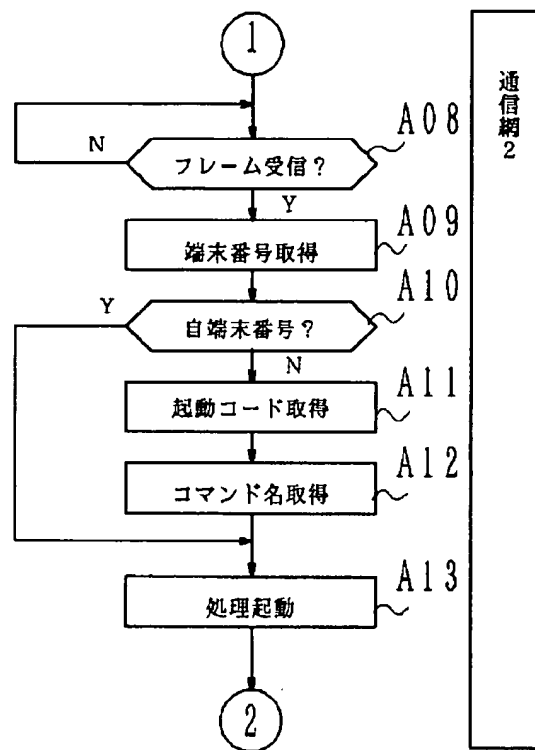
通信網 2

PATENT ABSTRACTS OF JAPAN

(11)Publication number :   06-112943

(43)Date of publication of application : 22.04.1994

(51)Int.Cl.	HO4L 12/18 HO4M 3/56

(21)Application number : 04-261296   (71)Applicant : NIPPON TELEGR & TELEPH CORP <NTT>
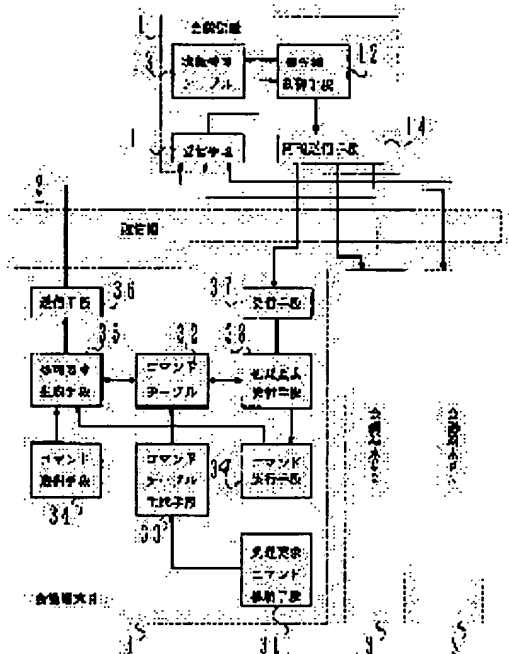
(22)Date of filing :   30.09.1992   (72)Inventor : YAMAGUCHI TOSHIKAZU

(54) MULTI-POINT COMMUNICATION CONFERENCE SYSTEM

(57)Abstract:

PURPOSE: To provide a multi-point communication conference system in which the system operation right acquisition algorithm is easily revised depending on the application of the communication conference system.

CONSTITUTION: A set of a start code and a command name used to discriminate whether or not an operation right of the system is provided is generated by a text form file, and registered in a processing request command storage means 31, prior to the start of communication conference, a sponsor or the like of the conference selects one file among plural text form files registered in advance, the content of the text form file is read and a command table 32 is generated. A conference terminal equipment 3 receiving a processing request is constituted so as to generate a processing request frame by using the command table 32.

LEGAL STATUS

[Date of request for examination]   03.08.1995

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]   2768413

[Date of registration]   10.04.1998

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

* NOTICES *

CLAIMS

[Claim(s)]
[Claim 1] One meeting equipment which performs addition of speech information and distribution of image information, and two or more meeting terminals are connected through means of communications. The meeting terminal with the processing demand in said two or more meeting terminals transmits a processing demand frame to said meeting equipment, and it judges whether meeting equipment can receive said processing demand. In the multi-point teleconference system constituted so that multiple address transmission of the processing authorization frame might be carried out at all meeting terminals if a receptionist is possible, and each meeting terminal might start the processing concerned based on the contents of this processing authorization frame The activation code which consists of permission codes which set up the check code for judging whether said each meeting terminal can start a command by the command code for identifying a command to ** processing demand, and the present system state, and the condition in command execution, The file of the text format which consists of sets of a command name The processing demand command storing means ** aforementioned activation code to store [two or more] The command table generation means ** processing demand which reads the file of one text format from the command table ** aforementioned processing demand command storing means which consists of sets of a command name, and generates said command table, Based on the command name received from a select command means ** aforementioned select command means to acquire one command name by operator actuation An activation code from the processing authorization frame received from the processing demand generation means ** aforementioned meeting equipment which acquires the activation code which searches said command table and corresponds, and generates said processing demand frame Drawing, It has a command execution means to start a command using the command name received from a processing demand reception means ** this processing demand reception means to acquire the command name which searches said command table and corresponds based on this activation code. Before initiation of a teleconference, each meeting terminal creates said common command table by reading one file of the text format beforehand registered into said processing demand command storing means. The multi-point teleconference system characterized by constituting so that a meeting terminal with a processing demand may generate said processing demand frame using the command table concerned.

[Translation done.]

* NOTICES *

Japan Patent Office is not responsible for any damages caused by the use of this translation.

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Industrial Application] This invention relates to an effective multi-point teleconference system, when holding a conference using the communications partner and meeting terminal of two or more points which were especially distributed by the large area about the multi-point teleconference system which connects and constitutes one meeting equipment and two or more meeting terminals in a communication network.
[0002]
[Description of the Prior Art] As this conventional kind of a multi-point teleconference system When the meeting terminal connected to meeting equipment through the communication network performs a processing demand, the meeting equipment which transmitted the please token frame to meeting equipment, and received the frame concerned Based on the control possession terminal number currently held inside, a please token frame is transmitted to the meeting terminal concerned. What transfers the control of a system was known by receiving a token grant frame by collecting the controls of a system and transmitting a token grant frame to the meeting terminal which transmitted the processing demand. In this case, if a please token frame is received from two or more meeting terminals, meeting equipment will receive the please token frame of the maximum first arrival, and will cancel the remaining please token frames. About this kind of system, for example In addition, Arikawa, a mountain stream, a wood : "multimedia communication meeting service using a personal computer" (NTT R&D Vol.39, No.9, pp.1265-1274), It is discussed in mountain stream, Nakane, Sakai, and Matsumoto: "the communications control method between many points in an audio graphic teleconference" ((IEICE TRANSACTIONS B) Vol.J70-B, No.3, pp.316-326) etc.
[0003]
[Problem(s) to be Solved by the Invention] Although transfer of the control of a system and recovery control become easy since the number of the meeting terminals which can acquire the control of a system is one within a system in the above-mentioned conventional technique While performing off-line processing and pointing display processing, such as printing processing, the meeting terminal which acquired the control of a system other meeting terminals The processing demand of printing processing or pointing display processing was unreceivable, it was kept waiting until the processing concerned was completed, and there was a problem that the man machine interface of a system worsened or a meeting was interrupted [long duration]. To this, there is a technique which these people proposed previously by Japanese Patent Application No. No. 281015 [03 to] "a multi-point teleconference system and the communications control approach" (October 28, Heisei 3 application). This technique was that to which a meeting terminal (drawing # 1) with a processing demand uses the command table of the immobilization currently beforehand held inside a meeting terminal, and generates a processing demand frame, as shown in drawing 2 . However, the contents of the command table were immobilization, and when changing or changing printing processing into on-line processing from off-line processing so that two or more meeting terminals can draw having restricted the right of actuation of drawing processing to one set of a meeting terminal to coincidence, reconstruction of a program was required of this technique. For example, it is better for two or more meeting terminals to be able to draw to coincidence, when it is better to restrict the meeting terminal which can draw when using a teleconference system for the meeting of a gestalt which permits an announcement by the chairperson's nomination to one set and uses a teleconference system for brainstorming on the other hand. The place which this invention was made in view of the above-mentioned situation, and is made into the purpose improves further the technique concerning these above-mentioned people's proposal, and is to offer the multi-point teleconference system which enabled modification of the right acquisition algorithm of actuation of a system easily by the

application of a teleconference system.
[0004]
[Means for Solving the Problem] One meeting equipment with which the above-mentioned purpose of this invention performs addition of speech information and distribution of image information, and two or more meeting terminals are connected through means of communications. The meeting terminal with the processing demand in said two or more meeting terminals transmits a processing demand frame to said meeting equipment, and it judges whether meeting equipment can receive said processing demand. In the multi-point teleconference system constituted so that multiple address transmission of the processing authorization frame might be carried out at all meeting terminals if a receptionist is possible, and each meeting terminal might start the processing concerned based on the contents of this processing authorization frame The activation code which consists of permission codes which set up the check code for judging whether said each meeting terminal can start a command by the command code for identifying a command to ** processing demand, and the present system state, and the condition in command execution, The file of the text format which consists of sets of a command name The processing demand command storing means ** aforementioned activation code to store [two or more] The command table generation means ** processing demand which reads the file of one text format from the command table ** aforementioned processing demand command storing means which consists of sets of a command name, and generates said command table, Based on the command name received from a select command means ** aforementioned select command means to acquire one command name by operator actuation An activation code from the processing authorization frame received from the processing demand generation means ** aforementioned meeting equipment which acquires the activation code which searches said command table and corresponds, and generates said processing demand frame Drawing, It has a command execution means to start a command using the command name received from a processing demand reception means ** this processing demand reception means to acquire the command name which searches said command table and corresponds based on this activation code. Before initiation of a teleconference, each meeting terminal creates said common command table by reading one file of the text format beforehand registered into said processing demand command storing means. It is attained by the multi-point teleconference system characterized by constituting so that a meeting terminal with a processing demand may generate said processing demand frame using the command table concerned.
[0005]
[Function] In the multi-point teleconference system concerning this invention, the set of the activation code and command name which are used in order to judge whether the right of actuation of a system is granted is created by the file of text format which was illustrated to drawing 8 , and this is registered into the processing demand command storing means. Before initiation of a teleconference, the sponsor of a meeting etc. chooses one piece from the file of two or more text format registered beforehand, reads the contents of the file of text format, and creates a command table. Thus, since the meeting terminal which has a processing demand by changing beforehand the contents of the command table which a meeting terminal holds inside before initiation of a teleconference generates a processing demand frame using the command table concerned to change the right acquisition algorithm of actuation of a system by the application of a teleconference system, it can become possible and changing the right acquisition algorithm of actuation of a system easily can raise a man machine interface.
[0006]
[Example] Hereafter, the example of this invention is explained to a detail based on a drawing. Drawing 1 is the block diagram of the multi-point teleconference system (only henceforth a "system") concerning one example of this invention. In drawing, the meeting equipment with which 1 performs informational collection and distribution to the meeting terminal 3, the communication network to which 2 connects meeting equipment 1 and two or more meeting terminals 3, and 3 are meeting terminals (#1 - #N) which hold a conference through a communication network 2. A receiving means 11 by which above-mentioned meeting equipment 1 receives the processing demand frame from the meeting terminal 3, The priority control means 12 which judges whether the status management table 13 mentioned later can be managed, and a processing demand of the meeting terminal 3 can be received, It consists of multiple address transmitting means 14 which carry out multiple address transmission of the processing authorization frame at all meeting terminals (#1 - #N) through the status management table 13 which registers the information which shows the present system state and the condition of each meeting terminal 3, and the communication network 2.
[0007] Moreover, the activation code which consists of a check code 22 for judging whether the meeting terminal 3 can start a command by the command code 21 which identifies a command, and the present system state, and a

permission code 23 which sets up the condition in command execution (refer to drawing 3), A processing demand command storing means 31 to store two or more files of the text format which consists of sets of a command name, An above-mentioned activation code and the command table 32 which consists of sets of a command name, A command table generation means 33 to generate one-piece read in and a command table for the file of text format from the above-mentioned processing demand command storing means 31, A select command means 34 to acquire one command name by operator actuation of a processing demand, menu selection, icon selection, etc., A processing demand generation means 35 to acquire the activation code which searches the above-mentioned command table 32 and corresponds based on the command name received from this select command means 34, and to generate a processing demand frame, A processing demand receptionist means 38 to take out an activation code and to acquire the command name which searches the above-mentioned command table 32 and corresponds based on the taken-out activation code from the processing authorization frame received from meeting equipment 1, The command name received from the processing demand receptionist means was used, and it has a command execution means 39 to start a command.

[0008] In addition, 36 in drawing 1 and 37 show the transmitting means and receiving means for transmitting and receiving the data to meeting equipment 1 through a communication network 2 from the meeting terminal 3. The configuration of an above-mentioned activation code is shown in drawing 3 . An activation code sets up 1 byte of command code 21 for identifying a command, the 4-bit check code 22 which shows the processing demand classification of a command, and the condition in command execution, they are used for it with a check code, and it consists of 4-bit permission codes 23 for judging whether a command can be started by the present system state. The meeting terminal 3 holds the command table 32 which consists of two or more activation codes inside, and performs a processing demand by choosing the activation code corresponding to a processing demand. The configuration of an above-mentioned check code and a permission code is shown in drawing 4 . When judging whether a command can start or not, the AND of this check code and the permission code currently beforehand held inside is calculated, and if it is "0", it will consider that starting is possible, and the permission code currently held is updated using the permission code in an activation code. Moreover, when an above-mentioned AND is not "0", it considers that starting is impossible, and a processing demand is canceled.

[0009] The example of a setting of the various processings used for drawing 5 by the teleconference system, a check code, and a permission code is shown. In the example shown in drawing 5 , even if one set of a meeting terminal is during a pointing display process, if other meeting terminals require a pointing display process, two or more sets of a reception eclipse and meeting terminals can carry out a pointing display process to coincidence. Moreover, off-line processing like the printing processing to coincidence of two or more sets of meeting terminals can be carried out similarly. Drawing 6 shows the configuration of a processing demand frame and a processing authorization frame. When the meeting terminal 3 performs a processing demand, the activation code corresponding to a processing demand is chosen, a processing demand frame is created using its terminal number, and it transmits to meeting equipment 1. Meeting equipment 1 creates the same activation code and the processing authorization frame which has a terminal number from the processing demand frame which chose the processing demand frame received from two or more meeting terminals to one, and was chosen, and carries out multiple address transmission at all meeting terminals (#1 - #N).

[0010] The configuration of the above-mentioned status management table 13 is shown in drawing 7 . The permission code of a system and each meeting terminal is held at the status management table 13. In the example shown here, since meeting terminal #1 and #N are in the condition in off-line processing, the system is in the condition in off-line processing. In this case, the permission code of a system will be received if meeting terminals other than meeting terminal #1 and #N perform the processing demand of off-line processing, since only the off-line-processing prohibition bit (refer to drawing 4) is "0." Drawing 8 shows the example of creation of the processing demand command storing file registered into the above-mentioned processing demand command storing means 31. Here, one line is one command definition (an invocation command and command name). Even read in and";" are interpreted as an activation code, it interprets [a command name and "from #" to a line feed mark] the selected text file of one line at a time even for "#" as a comment sentence, and the activation code and the command name are stored in a command table.

[0011] Since the activation code of drawing processing is set as "011f" in the example of drawing 8 , If it is check code = "0001" and permission code = "1111", and one set of a meeting terminal performs the processing demand of drawing processing and it is received, since "1111" will be set as the permission code of a system, Even if it performs the processing demand of drawing processing of other meeting terminals, it is set to "0001" &"1111"

=0001 (!=0), and a processing demand does not have a reception eclipse. If it gives with check code = "0001" and permission code = "1110" when granting the right of actuation of drawing processing within a system to two or more sets of meeting terminals, even if it will be set to 0001&1110=0000 (= 0) and will drawing be under processing on the other hand, a processing demand will be received if there is a drawing processing demand from other meeting terminals. Namely, what is necessary is to use a text editor etc. and just to change the activation code of drawing processing of a processing demand command storing file into "011e" from "011f."

[0012] Hereafter, it bases and explains in the flow Fig. of operation which shows the actuation under meeting activation to drawing 9 and drawing 10 . In addition, steps A01-A13 show actuation of the meeting terminal 3, and steps B01-B13 show actuation of meeting equipment 1.

Step A01: The meeting terminal 3 chooses one file from two or more processing demand command storing files stored in the processing demand command storing means 31 after system starting.

Step A02: The command table generation means 33 creates read in and the command table 32, and holds the text file chosen at step A01 inside the meeting terminal 3.

Step A03: Wait until a processing demand occurs from the select command means 34.

Step A04: If a processing demand occurs, the select command means 34 will be used and a command name will be acquired.

Step A05: Based on the command name acquired at step A04, the processing demand generation means 35 searches the command table 32, and acquires an activation code.

[0013] Step A06: The processing demand generation means 35 creates the activation code acquired at step A04, and the processing demand frame constituted from a terminal number of the self-meeting terminal 3.

Step A07: The transmitting means 36 transmits the processing demand frame created at step A06 to meeting equipment 1.

Step B01: The receiving means 11 of meeting equipment 1 receives the processing demand frame from the meeting terminal 3, and passes it to the priority control means 12.

Step B02: The priority control means 12 acquires a check code from the processing demand frame received at step B01.

Step B03: The priority control means 12 acquires further the permission code which shows a system state from the status management table 13.

Step B04:, next the priority control means 12 calculate the AND of the check code acquired at step B02, and the permission code acquired at step B03.

Step B05: It will receive, if the count result in step B04 is not "0", and consider that it is improper, cancel a processing demand, and change to the processing demand frame receiving waiting of step B01. Moreover, when the count result in step B04 is "0", it considers that a receptionist of a processing demand is possible, and it changes to step B06.

[0014] Step B06: The priority control means 12 acquires a terminal number from the processing demand frame received at step B01.

Step B07: The priority control means 12 acquires a permission code from the processing demand frame received at step B01 further.

Step B08:, next the priority control means 12 update the permission code corresponding to the terminal number acquired at step B06 in the status management table 13 by the permission code acquired at step B07.

Step B09:, next the priority control means 12 calculate the OR of the permission code of all the meeting terminals 3 held in the status management table 13.

Step B10:, next the priority control means 12 are updated by the permission code to which step B09 calculated the permission code of the system in the status management table 13.

Step B11: When the permission code of a system is "1111" and all processings are in a prohibition condition, repeat steps B01-B10 until it receives the processing demand frame of "processing termination" from all the meeting terminals 3 and the permission code of a system changes in addition to "1111." If the permission code of a system is except "1111", it will progress to step B12.

[0015] Step B12: The priority control means 12 creates a processing authorization frame using the permission code by which the command code, terminal number, and step B10 which were received at step B01 were updated, and passes it to the multiple address transmitting means 14.

Step B13: The multiple address transmitting means 14 carries out multiple address transmission of the processing authorization frame received at step B12 at all the meeting terminals 3.

Step A08: The receiving means 37 of the meeting terminal 3 receives the processing authorization frame from meeting equipment 1.

Step A09: The processing demand reception means 38 of the meeting terminal 3 acquires a terminal number from the processing authorization frame received at step A08.

Step A10: The processing demand reception means 38 confirms whether the terminal number acquired at step A09 is in agreement with the terminal number of the self-meeting terminal 3, and if in agreement, it will consider that it is that by which the processing demand of the self-meeting terminal 3 was received, and it will change to step A13. Moreover, if not in agreement, it is regarded as that by which the processing demand of the other meeting terminal 3 was received, and changes to step A11.

[0016] Step A11: The processing demand reception means 38 of the meeting terminal 3 acquires an activation code from the processing authorization frame received at step A08.

Step A12:, next the processing demand reception means 38 search a command table based on the activation code received at step A11, and acquire a command name.

Step A13: The command execution means 39 of the meeting terminal 3 starts a command using the command name which acquired the command name acquired at step A04 when a processing demand of the self-meeting terminal 3 was received at step A12 again when a processing demand of the other meeting terminal 3 was received.

In addition, when the processing started at step A13 is completed, and the command execution means 39 transmits the processing demand of "processing termination" to meeting equipment 1 via the processing demand generation means 35, a system state returns to the waiting for a processing demand. By repeating this the processing of a series of, various kinds of processings in a multi-point teleconference system can be carried out.

[0017] The meeting terminal which can draw when using a teleconference system for the meeting of a gestalt which permits an announcement by the chairperson's above-mentioned nomination according to the above-mentioned example is restricted to one set. As [said / that two or more meeting terminals could draw to coincidence when using a teleconference system for brainstorming then] Modification of the right acquisition algorithm of actuation of a system by changing beforehand the contents of the command table which a meeting terminal holds inside before initiation of a teleconference The right acquisition algorithm of actuation of a system can be changed easily, and improvement in a man machine interface is attained because a meeting terminal with a processing demand generates a processing demand frame using the command table concerned. In addition, the above-mentioned example shows an example of this invention, and it is a thing needless to say that this invention is not what should be limited to this.

[Effect of the Invention] As mentioned above, as explained to the detail, according to this invention, the remarkable effectiveness that the multi-point teleconference system which enabled modification of the right acquisition algorithm of actuation of a system easily is realizable is done so by the application of the teleconference system which improved further the technique which these above-mentioned people proposed previously.

[0018]

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

TECHNICAL FIELD

[Industrial Application] This invention relates to an effective multi-point teleconference system, when holding a conference using the communications partner and meeting terminal of two or more points which were especially distributed by the large area about the multi-point teleconference system which connects and constitutes one meeting equipment and two or more meeting terminals in a communication network.

[Translation done.]

* NOTICES *

**Japan Patent Office is not responsible for any
damages caused by the use of this translation.**

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

PRIOR ART

[Description of the Prior Art] As this conventional kind of multi-point teleconference system, When the meeting terminal connected to meeting equipment through the communication network performs a processing demand, the meeting equipment which transmitted the please token frame to meeting equipment, and received the frame concerned Based on the control possession terminal number currently held inside, a please token frame is transmitted to the meeting terminal concerned. What transfers the control of a system was known by receiving a token grant frame by collecting the controls of a system and transmitting a token grant frame to the meeting terminal which transmitted the processing demand. In this case, if a please token frame is received from two or more meeting terminals, meeting equipment will receive the please token frame of the maximum first arrival, and will cancel the remaining please token frames. In addition, about this kind of system, it is Arikawa, mountain stream, and wood: "multimedia communication meeting service using a personal computer" (NTT R&D Vol.39, No.9, pp.1265-1274), for example, It is discussed in mountain stream, Nakane, Sakai, and Matsumoto: "the communications control method between many points in an audio graphic teleconference" ((IEICE TRANSACTIONS B) Vol.J70-B, No.3, pp.316-326) etc.

[Translation done.]

* NOTICES *

EFFECT OF THE INVENTION

[Effect of the Invention] As mentioned above, as explained to the detail, according to this invention, the remarkable effectiveness that the multi-point teleconference system which enabled modification of the right acquisition algorithm of actuation of a system easily is realizable is done so by the application of the teleconference system which improved further the technique which these above-mentioned people proposed previously.

[Translation done.]

TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] Although transfer of the control of a system and recovery control become easy since the number of the meeting terminals which can acquire the control of a system is one within a system in the above-mentioned conventional technique While performing off-line processing and pointing display processing, such as printing processing, the meeting terminal which acquired the control of a system other meeting terminals The processing demand of printing processing or pointing display processing was unreceivable, it was kept waiting until the processing concerned was completed, and there was a problem that the man machine interface of a system worsened or a meeting was interrupted [long duration]. To this, there is a technique which these people proposed previously by Japanese Patent Application No. No. 281015 [03 to] "a multi-point teleconference system and the communications control approach" (October 28, Heisei 3 application). This technique was that to which a meeting terminal (drawing # 1) with a processing demand uses the command table of the immobilization currently beforehand held inside a meeting terminal, and generates a processing demand frame, as shown in drawing 2 . However, the contents of the command table were immobilization, and when changing or changing printing processing into on-line processing from off-line processing so that two or more meeting terminals can draw having restricted the right of actuation of drawing processing to one set of a meeting terminal to coincidence, reconstruction of a program was required of this technique. For example, it is better for two or more meeting terminals to be able to draw to coincidence, when it is better to restrict the meeting terminal which can draw when using a teleconference system for the meeting of a gestalt which permits an announcement by the chairperson's nomination to one set and uses a teleconference system for brainstorming on the other hand. The place which this invention was made in view of the above-mentioned situation, and is made into the purpose improves further the technique concerning these above-mentioned people's proposal, and is to offer the multi-point teleconference system which enabled modification of the right acquisition algorithm of actuation of a system easily by the application of a teleconference system.

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

MEANS

[Means for Solving the Problem] One meeting equipment with which the above-mentioned purpose of this invention performs addition of speech information and distribution of image information, and two or more meeting terminals are connected through means of communications. The meeting terminal with the processing demand in said two or more meeting terminals transmits a processing demand frame to said meeting equipment, and it judges whether meeting equipment can receive said processing demand. In the multi-point teleconference system constituted so that multiple address transmission of the processing authorization frame might be carried out at all meeting terminals if a receptionist is possible, and each meeting terminal might start the processing concerned based on the contents of this processing authorization frame The activation code which consists of permission codes which set up the check code for judging whether said each meeting terminal can start a command by the command code for identifying a command to ** processing demand, and the present system state, and the condition in command execution, The file of the text format which consists of sets of a command name The processing demand command storing means ** aforementioned activation code to store [two or more] The command table generation means ** processing demand which reads the file of one text format from the command table ** aforementioned processing demand command storing means which consists of sets of a command name, and generates said command table, Based on the command name received from a select command means ** aforementioned select command means to acquire one command name by operator actuation An activation code from the processing authorization frame received from the processing demand generation means ** aforementioned meeting equipment which acquires the activation code which searches said command table and corresponds, and generates said processing demand frame Drawing, It has a command execution means to start a command using the command name received from a processing demand reception means ** this processing demand reception means to acquire the command name which searches said command table and corresponds based on this activation code. Before initiation of a teleconference, each meeting terminal creates said common command table by reading one file of the text format beforehand registered into said processing demand command storing means. It is attained by the multi-point teleconference system characterized by constituting so that a meeting terminal with a processing demand may generate said processing demand frame using the command table concerned.

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

OPERATION

[Function] In the multi-point teleconference system concerning this invention, the set of the activation code and command name which are used in order to judge whether the right of actuation of a system is granted is created by the file of text format which was illustrated to drawing 8 , and this is registered into the processing demand command storing means. Before initiation of a teleconference, the sponsor of a meeting etc. chooses one piece from the file of two or more text format registered beforehand, reads the contents of the file of text format, and creates a command table. Thus, since the meeting terminal which has a processing demand by changing beforehand the contents of the command table which a meeting terminal holds inside before initiation of a teleconference generates a processing demand frame using the command table concerned to change the right acquisition algorithm of actuation of a system by the application of a teleconference system, it can become possible and changing the right acquisition algorithm of actuation of a system easily can raise a man machine interface.

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

―――

EXAMPLE
―――

[Example] Hereafter, the example of this invention is explained to a detail based on a drawing. Drawing 1 is the block diagram of the multi-point teleconference system (only henceforth a "system") concerning one example of this invention. In drawing, the meeting equipment with which 1 performs informational collection and distribution to the meeting terminal 3, the communication network to which 2 connects meeting equipment 1 and two or more meeting terminals 3, and 3 are meeting terminals (#1 - #N) which hold a conference through a communication network 2. A receiving means 11 by which above-mentioned meeting equipment 1 receives the processing demand frame from the meeting terminal 3, The priority control means 12 which judges whether the status management table 13 mentioned later can be managed, and a processing demand of the meeting terminal 3 can be received, It consists of multiple address transmitting means 14 which carry out multiple address transmission of the processing authorization frame at all meeting terminals (#1 - #N) through the status management table 13 which registers the information which shows the present system state and the condition of each meeting terminal 3, and the communication network 2.
[0007] Moreover, the activation code which consists of a check code 22 for judging whether the meeting terminal 3 can start a command by the command code 21 which identifies a command, and the present system state, and a permission code 23 which sets up the condition in command execution (refer to drawing 3), A processing demand command storing means 31 to store two or more files of the text format which consists of sets of a command name, An above-mentioned activation code and the command table 32 which consists of sets of a command name, A command table generation means 33 to generate one-piece read in and a command table for the file of text format from the above-mentioned processing demand command storing means 31, A select command means 34 to acquire one command name by operator actuation of a processing demand, menu selection, icon selection, etc., A processing demand generation means 35 to acquire the activation code which searches the above-mentioned command table 32 and corresponds based on the command name received from this select command means 34, and to generate a processing demand frame, A processing demand receptionist means 38 to take out an activation code and to acquire the command name which searches the above-mentioned command table 32 and corresponds based on the taken-out activation code from the processing authorization frame received from meeting equipment 1, The command name received from the processing demand receptionist means was used, and it has a command execution means 39 to start a command.
[0008] In addition, 36 in drawing 1 and 37 show the transmitting means and receiving means for transmitting and receiving the data to meeting equipment 1 through a communication network 2 from the meeting terminal 3. The configuration of an above-mentioned activation code is shown in drawing 3 . An activation code sets up 1 byte of command code 21 for identifying a command, the 4-bit check code 22 which shows the processing demand classification of a command, and the condition in command execution, they are used for it with a check code, and it consists of 4-bit permission codes 23 for judging whether a command can be started by the present system state. The meeting terminal 3 holds the command table 32 which consists of two or more activation codes inside, and performs a processing demand by choosing the activation code corresponding to a processing demand. The configuration of an above-mentioned check code and a permission code is shown in drawing 4 . When judging whether a command can start or not, the AND of this check code and the permission code currently beforehand held inside is calculated, and if it is "0", it will consider that starting is possible, and the permission code currently held is updated using the permission code in an activation code. Moreover, when an above-mentioned AND is not "0", it considers that starting is impossible, and a processing demand is canceled.
[0009] The example of a setting of the various processings used for drawing 5 by the teleconference system, a check code, and a permission code is shown. In the example shown in drawing 5 , even if one set of a meeting

terminal is during a pointing display process, if other meeting terminals require a pointing display process, two or more sets of a reception eclipse and meeting terminals can carry out a pointing display process to coincidence. Moreover, off-line processing like the printing processing to coincidence of two or more sets of meeting terminals can be carried out similarly. Drawing 6 shows the configuration of a processing demand frame and a processing authorization frame. When the meeting terminal 3 performs a processing demand, the activation code corresponding to a processing demand is chosen, a processing demand frame is created using its terminal number, and it transmits to meeting equipment 1. Meeting equipment 1 creates the same activation code and the processing authorization frame which has a terminal number from the processing demand frame which chose the processing demand frame received from two or more meeting terminals to one, and was chosen, and carries out multiple address transmission at all meeting terminals (#1 - #N).

[0010] The configuration of the above-mentioned status management table 13 is shown in drawing 7 . The permission code of a system and each meeting terminal is held at the status management table 13. In the example shown here, since meeting terminal #1 and #N are in the condition in off-line processing, the system is in the condition in off-line processing. In this case, the permission code of a system will be received if meeting terminals other than meeting terminal #1 and #N perform the processing demand of off-line processing, since only the off-line-processing prohibition bit (refer to drawing 4) is "0." Drawing 8 shows the example of creation of the processing demand command storing file registered into the above-mentioned processing demand command storing means 31. Here, one line is one command definition (an invocation command and command name). Even read in and";" are interpreted as an activation code, it interprets [a command name and "from #" to a line feed mark] the selected text file of one line at a time even for "#" as a comment sentence, and the activation code and the command name are stored in a command table.

[0011] Since the activation code of drawing processing is set as "011f" in the example of drawing 8 , If it is check code = "0001" and permission code = "1111", and one set of a meeting terminal performs the processing demand of drawing processing and it is received, since "1111" will be set as the permission code of a system, Even if it performs the processing demand of drawing processing of other meeting terminals, it is set to "0001" &"1111" =0001 (!=0), and a processing demand does not have a reception eclipse. If it gives with check code = "0001" and permission code = "1110" when granting the right of actuation of drawing processing within a system to two or more sets of meeting terminals, even if it will be set to 0001&1110=0000 (= 0) and will drawing be under processing on the other hand, a processing demand will be received if there is a drawing processing demand from other meeting terminals. Namely, what is necessary is to use a text editor etc. and just to change the activation code of drawing processing of a processing demand command storing file into "011e" from "011f."

[0012] Hereafter, it bases and explains in the flow Fig. of operation which shows the actuation under meeting activation to drawing 9 and drawing 10 . In addition, steps A01-A13 show actuation of the meeting terminal 3, and steps B01-B13 show actuation of meeting equipment 1.

Step A01: The meeting terminal 3 chooses one file from two or more processing demand command storing files stored in the processing demand command storing means 31 after system starting.

Step A02: The command table generation means 33 creates read in and the command table 32, and holds the text file chosen at step A01 inside the meeting terminal 3.

Step A03: Wait until a processing demand occurs from the select command means 34.

Step A04: If a processing demand occurs, the select command means 34 will be used and a command name will be acquired.

Step A05: Based on the command name acquired at step A04, the processing demand generation means 35 searches the command table 32, and acquires an activation code.

[0013] Step A06: The processing demand generation means 35 creates the activation code acquired at step A04, and the processing demand frame constituted from a terminal number of the self-meeting terminal 3.

Step A07: The transmitting means 36 transmits the processing demand frame created at step A06 to meeting equipment 1.

Step B01: The receiving means 11 of meeting equipment 1 receives the processing demand frame from the meeting terminal 3, and passes it to the priority control means 12.

Step B02: The priority control means 12 acquires a check code from the processing demand frame received at step B01.

Step B03: The priority control means 12 acquires further the permission code which shows a system state from the status management table 13.

Step B04:, next the priority control means 12 calculate the AND of the check code acquired at step B02, and the permission code acquired at step B03.

Step B05: It will receive, if the count result in step B04 is not "0", and consider that it is improper, cancel a processing demand, and change to the processing demand frame receiving waiting of step B01. Moreover, when the count result in step B04 is "0", it considers that a receptionist of a processing demand is possible, and it changes to step B06.

[0014] Step B06: The priority control means 12 acquires a terminal number from the processing demand frame received at step B01.

Step B07: The priority control means 12 acquires a permission code from the processing demand frame received at step B01 further.

Step B08:, next the priority control means 12 update the permission code corresponding to the terminal number acquired at step B06 in the status management table 13 by the permission code acquired at step B07.

Step B09:, next the priority control means 12 calculate the OR of the permission code of all the meeting terminals 3 held in the status management table 13.

Step B10:, next the priority control means 12 are updated by the permission code to which step B09 calculated the permission code of the system in the status management table 13.

Step B11: When the permission code of a system is "1111" and all processings are in a prohibition condition, repeat steps B01-B10 until it receives the processing demand frame of "processing termination" from all the meeting terminals 3 and the permission code of a system changes in addition to "1111." If the permission code of a system is except "1111", it will progress to step B12.

[0015] Step B12: The priority control means 12 creates a processing authorization frame using the permission code by which the command code, terminal number, and step B10 which were received at step B01 were updated, and passes it to the multiple address transmitting means 14.

Step B13: The multiple address transmitting means 14 carries out multiple address transmission of the processing authorization frame received at step B12 at all the meeting terminals 3.

Step A08: The receiving means 37 of the meeting terminal 3 receives the processing authorization frame from meeting equipment 1.

Step A09: The processing demand reception means 38 of the meeting terminal 3 acquires a terminal number from the processing authorization frame received at step A08.

Step A10: The processing demand reception means 38 confirms whether the terminal number acquired at step A09 is in agreement with the terminal number of the self-meeting terminal 3, and if in agreement, it will consider that it is that by which the processing demand of the self-meeting terminal 3 was received, and it will change to step A13. Moreover, if not in agreement, it is regarded as that by which the processing demand of the other meeting terminal 3 was received, and changes to step A11.

[0016] Step A11: The processing demand reception means 38 of the meeting terminal 3 acquires an activation code from the processing authorization frame received at step A08.

Step A12:, next the processing demand reception means 38 search a command table based on the activation code received at step A11, and acquire a command name.

Step A13: The command execution means 39 of the meeting terminal 3 starts a command using the command name which acquired the command name acquired at step A04 when a processing demand of the self-meeting terminal 3 was received at step A12 again when a processing demand of the other meeting terminal 3 was received.

In addition, when the processing started at step A13 is completed, and the command execution means 39 transmits the processing demand of "processing termination" to meeting equipment 1 via the processing demand generation means 35, a system state returns to the waiting for a processing demand. By repeating this the processing of a series of, various kinds of processings in a multi-point teleconference system can be carried out.

[0017] The meeting terminal which can draw when using a teleconference system for the meeting of a gestalt which permits an announcement by the chairperson's above-mentioned nomination according to the above-mentioned example is restricted to one set. As [said / that two or more meeting terminals could draw to coincidence when using a teleconference system for brainstorming then] Modification of the right acquisition algorithm of actuation of a system by changing beforehand the contents of the command table which a meeting terminal holds inside before initiation of a teleconference The right acquisition algorithm of actuation of a system can be changed easily, and improvement in a man machine interface is attained because a meeting terminal with a processing demand generates a processing demand frame using the command table concerned. In addition, the above-mentioned

example shows an example of this invention, and it is a thing needless to say that this invention is not what should be limited to this.

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] It is the block diagram showing the teleconference structure of a system concerning one example of this invention.
[Drawing 2] It is the block block diagram of the teleconference system which these people proposed previously.
[Drawing 3] It is drawing showing the configuration of an activation code.
[Drawing 4] It is drawing showing the configuration of a check code and a permission code.
[Drawing 5] It is drawing showing the example of a setting of the check code corresponding to various processings, and a permission code.
[Drawing 6] It is drawing showing the configuration of a processing demand frame and a processing authorization frame.
[Drawing 7] It is drawing showing the example of a configuration of a status management table.
[Drawing 8] It is drawing showing the example of a configuration of a processing demand command storing file.
[Drawing 9] They are some flow Figs. of an example of operation.
[Drawing 10] They are some other flow Figs. of an example of operation.
[Description of Notations]
Meeting equipment, 2:communication network, 3:meeting terminal (#1 - #N), 11 : 1: A receiving means, 12: A priority control means, 13:status management table, 14 : A multiple address transmitting means, 21 : Command code, 22:check code, 23:permission code, 31: A processing demand command storing means, 32:command table, 33:command table generation means, 34:select-command means, 35:processing demand generation means, a 36:transmitting means, a 37:receiving means, 38:processing demand receptionist means, 39: Command execution means.
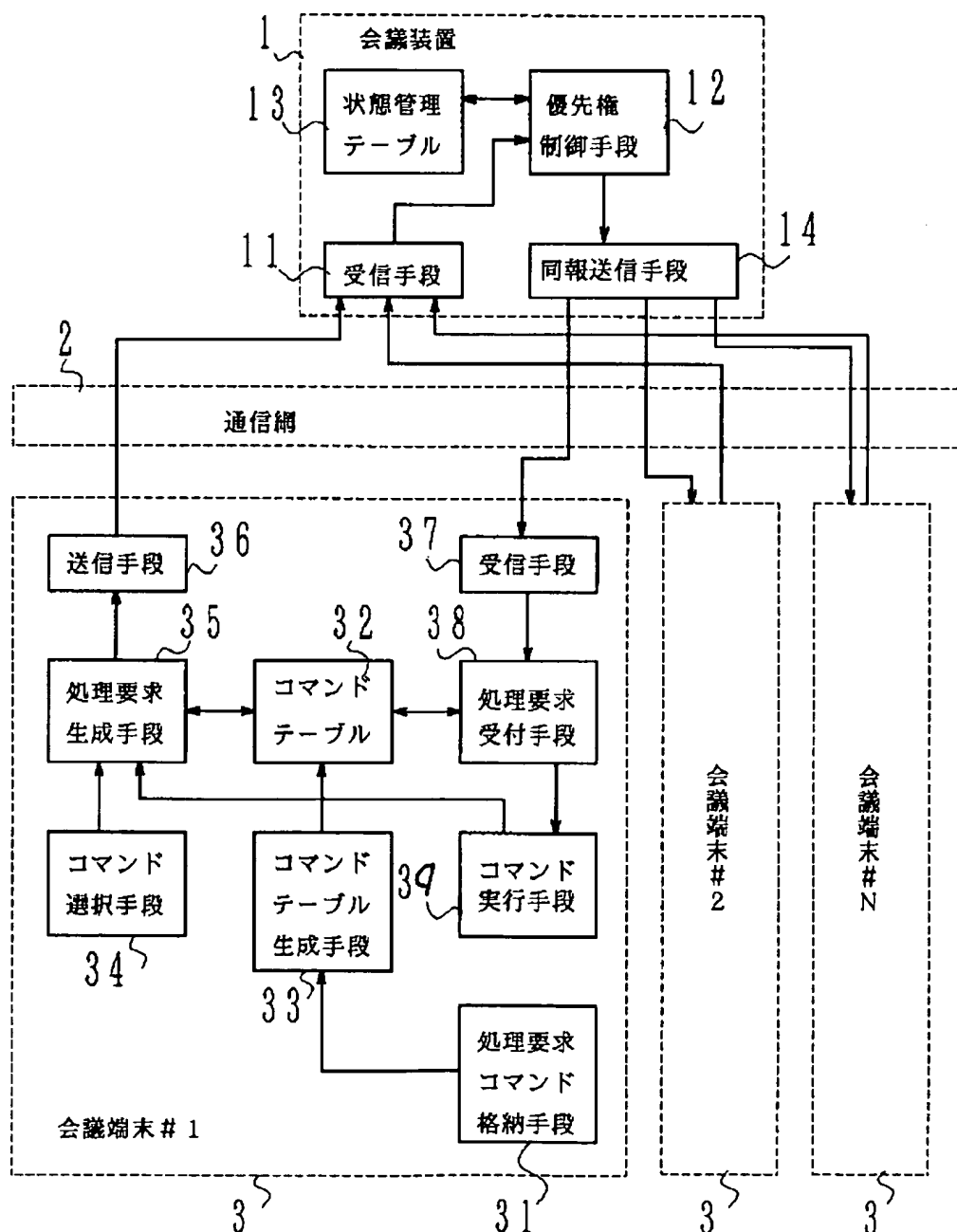
[Translation done.]

DRAWINGS

[Drawing 1]

実施例に係るシステムの構成図

[Drawing 2]

先願に係るシステムの構成図

会議装置

| 状態管理テーブル | ⟷ | 優先権制御手段 |

受信手段　同報送信手段

通信網

会議端末#1
送信手段　受信手段
コマンドテーブル　処理要求手段

会議端末#2

会議端末#N

[Drawing 3]

起動コードの構成
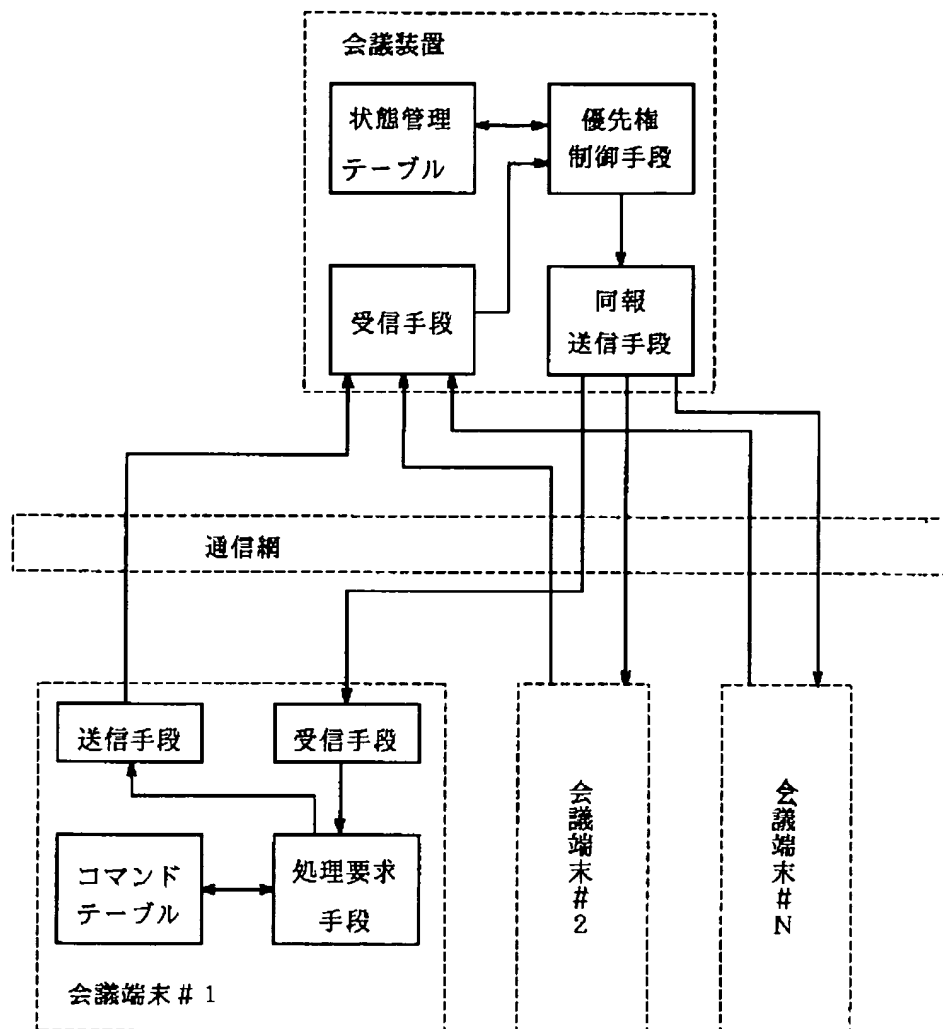
コマンドコード	チェックコード	パーミッションコード
21	22	23
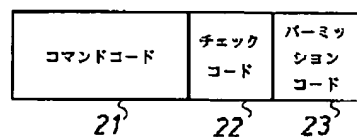
[Drawing 4]

チェックコード, パーミッションコードの構成

チェックコード				パーミッションコード			
b7	b6	b5	b4	b3	b2	b1	b0

- 描画処理禁止
- ポインティング処理禁止
- オンライン処理禁止
- オフライン処理禁止
- 描画処理要求
- ポインティング処理要求
- オンライン処理要求
- オフライン処理要求
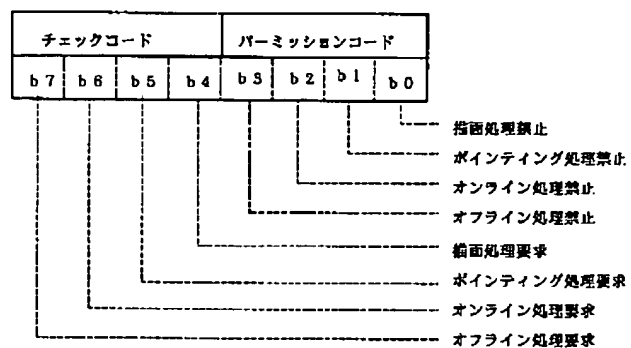
[Drawing 6]

処理要求フレーム、処理許可フレームの構成

起動コード	端末番号

[Drawing 5]
チェックコードおよびパーミッションコードの設定例

処理名	チェックコード	パーミッションコード
描画処理	0 0 0 1	1 1 1 1
ポインティング表示処理	0 0 1 0	1 1 0 1
改ページ処理	0 1 0 0	1 1 1 1
印刷処理	1 0 0 0	0 1 1 1

[Drawing 7]
状態管理テーブルの構成

	パーミッション	
システム	0 1 1 1	オフライン処理中状態
金融端末＃1	0 1 1 1	オフライン処理中状態
金融端末＃2	0 0 0 0	処理待ち状態
・・・		
金融端末＃N	0 1 1 1	オフライン処理中状態

描画処理禁止
ポインティング処理禁止
オンライン処理禁止
オフライン処理禁止

[Drawing 8]
処理要求コマンド格納ファイルの作成例

```
起動コード；コマンド名＃コメント（処理名）

0000;MAC          #基本制御
011f;PEN          #描画
114f;CLEAR        #全画面消去
134f;PAGE         #改ページ
214f;CONNECT      #回線接続
254f;DISCON       #回線切断
444f;V_LINE       #縦線描画
454f;H_LINE       #横線描画
514f;SMALL        #画面縮小
524f;BIG          #画面拡大
534f;TURN         #画面回転
664f;DOCUMENT     #資料読込み
734f;DATA_FIL     #ファイル送信
814f;SCANNER      #スキャナ読込み
9487;PRINT_ALL    #全ページ印刷
```

[Drawing 9]

会議端末3
#1，#2，・・・#N

実施例の動作フロー

会議装置1

A01 ［システム立上げ］
テキストファイル選択

A02
コマンドテーブル生成

［会議開始］ A03

N
処理要求有り？

A04
コマンド名取得

A05
起動コード取得

A06
処理要求フレーム作成

A07
フレーム送信

通信網2

処理要求フレーム

［会議開始］

B01
フレーム受信？ N

Y
B02
チェックコード取得

B03
パーミッションコード取得

B04
論理積計算

B05
受付可能？ N

Y
B06
端末番号取得

B07
パーミッションコード取得

B08
端末のパーミッションコード更新

B09
パーミッションコードの論理和を計算

B10
システムのパーミッションコード更新

B11
送信条件満足？ N

Y
B12
処理許可フレーム作成

B13
フレーム同報送信

処理許可フレーム

②

①
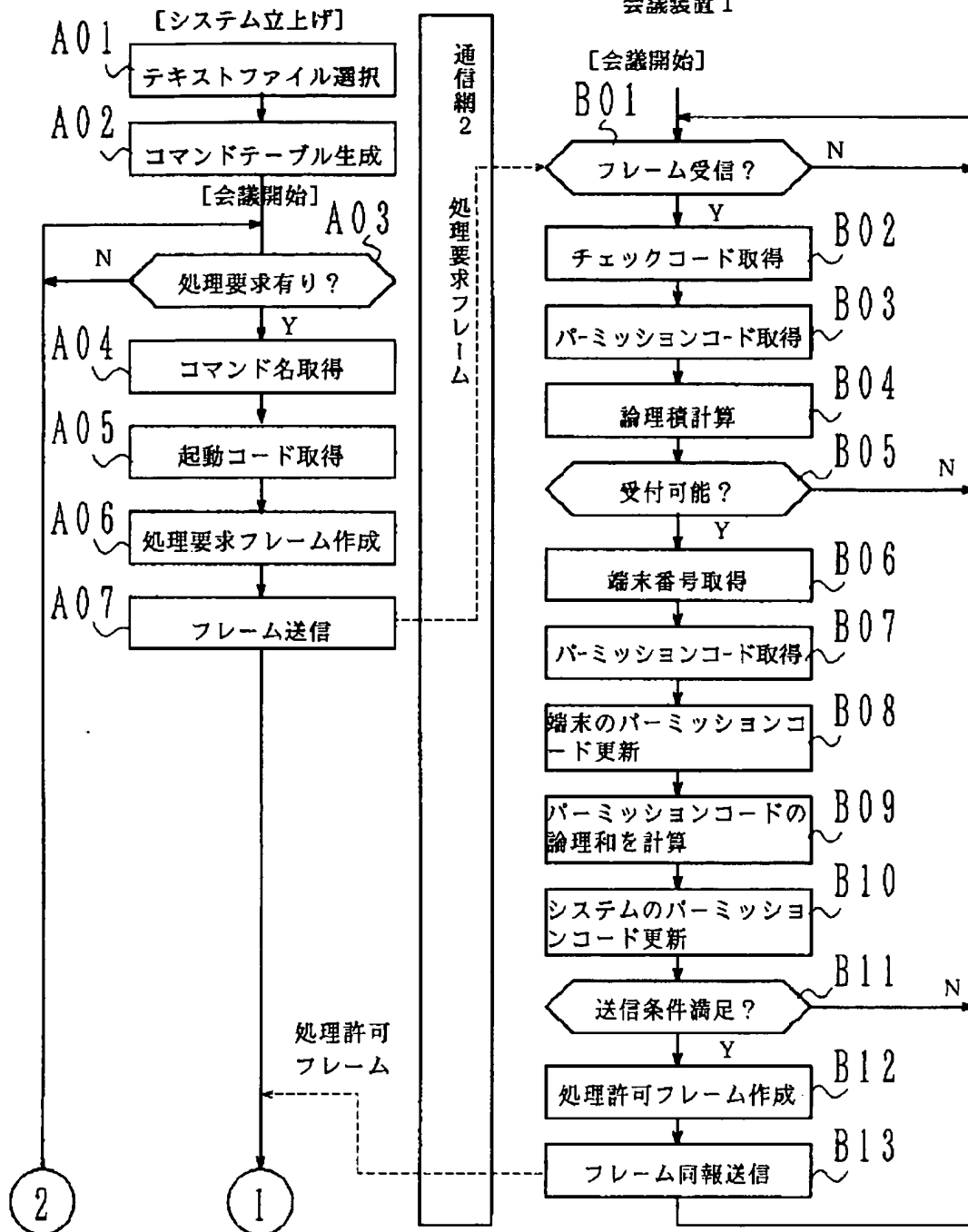
[Drawing 10]

実施例の動作フロー

会議端末3


```
        ①
         │
    ┌────┘
    │    ▼
    │  ╱フレーム受信？╲     A08
 N  └─┤              ├───
       ╲            ╱
         │
         │ Y
         ▼
    ┌─────────────┐      A09
    │  端末番号取得  │───
    └─────────────┘
         │
         ▼
 Y   ╱自端末番号？╲      A10
 ┌───┤           ├───
 │    ╲         ╱
 │       │ N
 │       ▼
 │  ┌─────────────┐   A11
 │  │ 起動コード取得  │───
 │  └─────────────┘
 │       │
 │       ▼
 │  ┌─────────────┐   A12
 │  │ コマンド名取得  │───
 │  └─────────────┘
 │       │
 └───────┤
         ▼
    ┌─────────────┐   A13
    │   処理起動    │───
    └─────────────┘
         │
         ▼
        ②
```

通信網2

[Translation done.]